Appendix C. Proposed Guiding Principles and Associated Issues

Overview

Objective:

- Overarching objective of the CERP under both State and federal law is restoration and preservation of the South Florida ecosystem – while providing for other water-related needs, including water supply and flood protection.

Laws:

- Implementation of the CERP must be consistent with state and federal law.

  - Federal

  In general, Federal law requires the quantification and protection of existing legal sources of water and quantification and protection of water made available for natural systems by CERP implementation through water reservations under State law.

  - State

  In general, State law requires quantification of water made available by CERP projects, protection of existing legal users of water during CERP implementation, and reservation or allocation of water made available by CERP projects, pursuant to state law.

  State law provides tools for protection of human and natural system water supplies through reservations of water to protect fish and wildlife, consumptive use permitting, water shortage management, minimum flows and levels, and regional water supply planning.

Proposed Implementation Steps:

- Specifically under these legal requirements, as a first step in CERP implementation, the SFWMD has initially proposed to:
  1) Define "existing legal sources";
  2) Quantify water currently available from the C&SF project for allocation to consumptive uses and other non-consumptive uses within urban/agricultural service areas (regional water availability); and
  3) Quantify water for protection of fish and wildlife for initial reservations of water.

- A baseline for implementing these requirements under State and Federal law is necessary to identify the timing, quantity and distribution of water from various sources under existing "pre-CERP conditions" within the South Florida ecosystem.

- It has been proposed that this quantification be undertaken through a "Pre-CERP baseline condition" model run. The assumptions in the model run first need to be identified. There are several differing views regarding the meaning and interpretation of law and associated policies upon which the model assumptions are based.

In order to identify the assumptions for the Pre-CERP Baseline Condition model run, the following general principles are proposed, along with issues that surround these principles. The purpose is to present them for public discussion and resolution. The process for resolving these issues will also include presentation of results of model runs of various scenarios that frame the issues being debated.

Proposed Guiding Principles and Issues regarding Pre-CERP Baseline Condition

General System-wide/Regional conditions:

- As a general principle, assumptions will be based on the conditions in the 1995 base run of the Lower East Coast Regional Water Supply Plan and the 1999 Restudy. Deviations or exceptions to this general principle will be explicitly identified.

  Issue: How do the assumptions in these model runs differ from actual December 2000 conditions? See below.

  Issue: How to integrate the Restudy update into baseline conditions?

Hydrologic conditions:

- As a general principle, rainfall/ET will be determined based on a period of record for the various hydrologic conditions from 1965 to 2000

Physical conditions/structure conditions:

- As a general principle the structures and projects that were in existence as of December 2000 will be accounted for.

  Issue: There are certain projects that were not built as of December 2000, but were federally authorized as of that date

    C-111 and other Mod Water projects

  Issue: There are certain state required projects that were in construction or are required to be constructed in the near future, pursuant to state law; Should these projects be assumed in the model run; if these projects are to be assumed as constructed and operational, both operations and water demands must be assumed in the model.

    STA 1 East; STA 3/4; Full ECP?

Operational conditions:

- As a general principle, operations in place as of December 2000 will be assumed.

  Issue: Certain operations are considered to be "experimental" or are under legal review or development as of December 2000. How should these operations be treated?

  Sparrow; ISOP vs. IOP vs. CSOP issue; FEMA
  S9 litigation issues; experimental water deliveries
  Flood protection issues in S. Dade

Supply/source conditions:

- As a general principle, primary regional sources of available water include: 1) local rainfall and surface water storage and runoff; 2) Biscayne aquifer and other groundwater; 3) Water Conservation Area storage; and 4) Lake Okeechobee.

- As a general principle, sources should be identified for basins, including urban/agricultural service areas and regional environmental areas.

- As a general principle, basins may have primary, secondary, and tertiary supply sources based on hydrologic conditions and available storage.

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Demand conditions:

- As a general principle, urban and agricultural demands will be based on that amount of water depended upon to meet reasonable needs in urban/agricultural service areas.

  Issue: Permitted allocation vs. actual use?

  Issue: Permitted acreage vs. 2000 acreage?

  Issue: Dependence defined by level of certainty – beyond level of certainty demands linked to water shortage implementation (cutbacks, etc.).

  How to handle changes to SSM and water shortage rules outside of CERP?

  Issue: Include demands for beneficial uses only.

  Do not include tidal discharges?
  Base demands on AFSIRS, not Blanney-Criddle?

- As a general principle, non-consumptive uses in urban/agricultural service areas will be accounted for as demands and will include deliveries for prevention of saltwater intrusion, wetland protection, aquifer recharge and other resource protection purposes.

- As a general principle, fish and wildlife demands will be based on historic operational deliveries under federal regulation schedules and other historic deliveries for beneficial uses by fish and wildlife within regional environmental areas, including water conservation areas.

Existing (2000) Condition - Pre-CERP Baseline Assumptions

Feature	Assumption
Regional Input Data	
Climate	The climatic period of record is from 1965 to 2000.
Topography	Updated November 2001 using latest available information (in NGVD 29 datum). This update includes: • USGS High Accuracy Elevation data from helicopter surveys collected 1999-2000 for Everglades National Park and Water Conservation Area (WCA) 3 south of Alligator Alley • USGS Lidar data (May 1999) for WCA-3A north of Alligator Alley • Lindahl, Browning, Ferrari & Helstrom 1999 survey for Rotenberger Wildlife Management Area • Stormwater Treatment Area surveys from 1990s • Aerometric Corp. 1986 survey of the 8-1/2 square mile area • Includes estimate of Everglades Agricultural Area subsidence • Other data as in SFWMM v3.7. (Documented in November 2001 SFWMD memorandum from M. Hinton to K. Tarboton)
Sea Level	• Sea level data from six long-term USGS stations were used to generate a historic record to use as sea level boundary conditions for the 1965 to 2000 evaluation period.
Land Use	All land use has been updated using most recent FLUCCS data (1995), modified in the Lower East Coast urban areas using 2000 aerial photography (2x2 scale).
Natural Area Land Cover (Vegetation)	Vegetation classes and their spatial distribution in the natural areas comes from the following data: • Walsh 1995 aerial photography in Everglades National Park • Rutchey 1995 classification in WCA-3B, WCA-3A north of Alligator Alley and the Miami Canal, WCA-2A & 2B • Richardson 1990 data for Loxahatchee National Wildlife Refuge • FLUCCS 1995 for Big Cypress National Preserve, Holey Land & Rotenberger Wildlife Management Areas & WCA-3A south of Alligator Alley and the Miami Canal. (Documented in November 2001 SFWMD memorandum from J. Barnes to K. Tarboton)
Lake Okeechobee Service Area	
Indian Prairie	•
Lake Okeechobee	• Lake Okeechobee Regulation Schedule WSE according to WSE decision trees. • Lake Okeechobee Supply Side management policy for Lake Okeechobee Service

Feature	Assumption
	Area water restriction cutbacks (reference stage 10.5'). • Emergency water supply and flood control backpumping to Lake Okeechobee from the Everglades Agricultural Area. • Kissimmee River inflows based on interim schedule for Kissimmee Chain of Lakes.
Caloosahatchee River Basin	•
St. Lucie Canal Basin	•
Seminole Brighton Reservation	• Brighton Seminole Reservation demands are the entitlement quantities as per Table 7, Agreement 41-21 (Nov 92). Supply-side management applies to this agreement
Seminole Big Cypress Reservation	• Big Cypress Seminole Reservation irrigation demands reflect the Seminole Compact (3,917 AF/mo; Oct 98). Supply-side management applies to the Compact.
Everglades Agricultural Area	•
Stormwater Treatment Areas	• Stormwater Treatment Areas 1W, 2, 5 & 6 operational; operation of Stormwater Treatment Areas assumes 6" minimum depth.
Holey Land Wildlife Management Area	• Holey Land Wildlife Management Area operated at 0.0 ft. dry season and 1.5 ft. wet season.
Rotenberger Wildlife Management Area	• Interim Operational Schedule (July 2001) for Rotenberger Wildlife Management Area (0.0 ft. dry season to 1.25 ft. wet season).
Water Conservation Areas	
Water Conservation Area 1 (Loxahatchee National Wildlife Preserve	• C&SF Regulation Schedule. • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if canal levels are less than minimum operating criteria of 14 ft.
Water Conservation Area 2 A&B	• Current regulation schedule. • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if canal levels are less than minimum operating criteria of 10.5 ft.
Water Conservation	• Current regulation schedule. • No net outflow to maintain minimum stages in the LEC Service Area canals

Feature	Assumption
Area 3 A&B	(salinity control), if canal levels are less than minimum operating criteria of 7.5 ft.
Lower East Coast Service Areas	
Public Water Supply and Irrigation	•
Seminole Hollywood Reservation	• Hollywood Seminole Reservation demands as set forth under VI.C of the Water Rights Compact.
Natural Areas	• Flows to the Loxahatchee River at xx cfs through S-46. • Lake Worth Lagoon… • Flows to Pond Apple Slough through S-13A at approximately xx acre feet per year.
Canal Operations	• C&SF system and operating rules in effect in 2000 including operations to meet control elevations in the primary coastal canals for the prevention of saltwater intrusion. • Existing secondary drainage/water supply system. • Broward secondary canal recharge network based on the Lower East Coast Regional Water Supply Plan.
Western Basins and Big Cypress National Preserve	
Western Basins	•
Big Cypress	•
Everglades National Park and Florida Bay	
	•
Region-wide Water Management and Related Operations	
	• The Existing Condition reflects the existing water shortage policies as reflected in South Florida Water Management District rule 40E-21. The impacts of declarations of water shortages on utility water use reflect assumptions contained in the Lower East Coast Regional Water Supply Plan for the 2010 base case.